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ABSTRACT

This study focused on Iranian students in the United States and factors influencing their decision to stay in the United States or return to the Islamic Republic of Iran after completion of their studies. Data were gathered via a mail survey of 130 Iranian students. Results indicated that almost 70 percent of respondents expressed intentions to return to Iran. Factors with high correlation with students' decision to remain in the United States included personal freedom and opportunity to stay; factors with moderate correlation were better work conditions, acceptable political conditions, better chance for advancement in profession, convenient life, better salary, and appropriate use of scholars' skills. Factors that were highly correlated with students' decision to return to Iran included convenient life and personal freedom, while factors that were moderately correlated included personal safety, acceptable political conditions, discrimination against Iranians, acceptable social life, emotional supports to parents, better work conditions, separation from religion, and separation from relatives. Strategies to encourage students to return to Iran are offered. (Contains 36 references.) (JDD)

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Evaluation of Iranian Students in the United States and Their Returnability to the Islamic Republic of Iran

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Abstract

Foreign student enrollment at US colleges and universities reached 449,750 in 1993-94. This figure reflects a 2.5% increase in foreign students over the previous academic year, according to the Institute of International Education (1994).

In 1980 nearly 52,000 Iranians were reported to be studying in the United States. Despite the continuing decline of Iranian students enrollments, Iranian students were one of the largest group of international students from the Middle East as of 1993-94.

This study was inspired by a number of factors. The most important factor is the multitude of articles in Iranian newspapers and magazines expressing concern over Iranian students studying in the United States and the failure of some of these students to return to the Islamic Republic after completion of their education. Many officials and commentators agree that this is a problem of serious concern for the Islamic Republic of Iran.

The purpose of this study was to examine Iranian students in the United States and factors influencing their decision whether to stay in the United States or return to the Islamic Republic after completion of their studies. The subjects for this study were Iranian college students studying in the United States. The sample for this study was determined by a random selection of 300 Iranian students studying on the graduate and undergraduate levels. A mail

questionnaire was chosen as the appropriate medium for responses. The data collection for this study followed some of the format suggested by the Total Design Method developed by Dillman (1987). Six (6) weeks after the original mail out, a total of 130 usable questionnaires were collected.

A correlational research design was chosen for this study. The point biserial was used at the .05 level to determine correlation between factors influencing Iranian students and their decision whether to stay in the United States or return to the Islamic Republic.

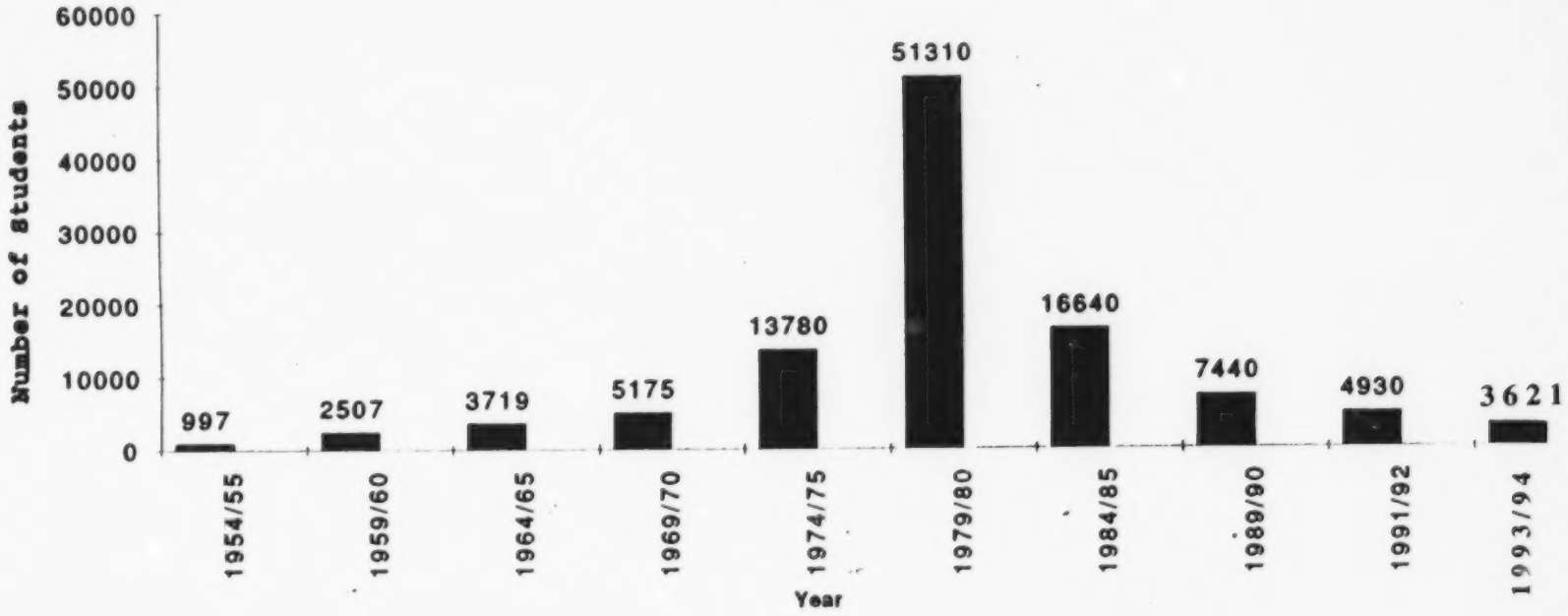
A total of 90 (69.23%) respondents expressed their plan to return to Iran after completion of their education. Personal freedom (**r**pb = .74) and opportunity to stay in the United States (**r**pb = .70) had high correlation with students' decision to remain in the United States. Better work conditions (**r**pb = .68), acceptable political conditions (**r**pb =.67), better chance for advancement in profession (**r**pb = .66), a convenient life (**r**pb = .65), better salary (**r**pb = .61), and appropriate use of scholars' skills had moderate correlation with students' decision to stay in the United States. Both convenient life (**r**pb = .70), and personal freedom (**r**pb = .70) had high correlation with students' decision to return to Iran. Personal safety (**r**pb = .69), acceptable political conditions (**r**pb = .67), discrimination against Iranians (**r**pb = .64), acceptable social life (**r**pb = .63), emotional supports to parents (**r**pb = .51), better work conditions (**r**pb = .47), separation from religion (**r**pb = .44), and separation from relatives (**r**pb = .40) had moderate correlation with students' decision to return to Iran after completion of their education.

Introduction

For 25 years from 1955 to 1980, Iranian students came to the U.S. in increasing numbers. In 1980, nearly 52,000 Iranians were reported to be studying in the United States . Despite the continuing decline of Iranian students enrollments, Iranian students are still one of the largest group of students from the Middle East as of 1993-94. Their current total of 3,621 is 51% lower than 4 years ago (7,440), based on the report released by the Institute of International Education called "Open Doors 1993-94". (Figure 1, and 2).

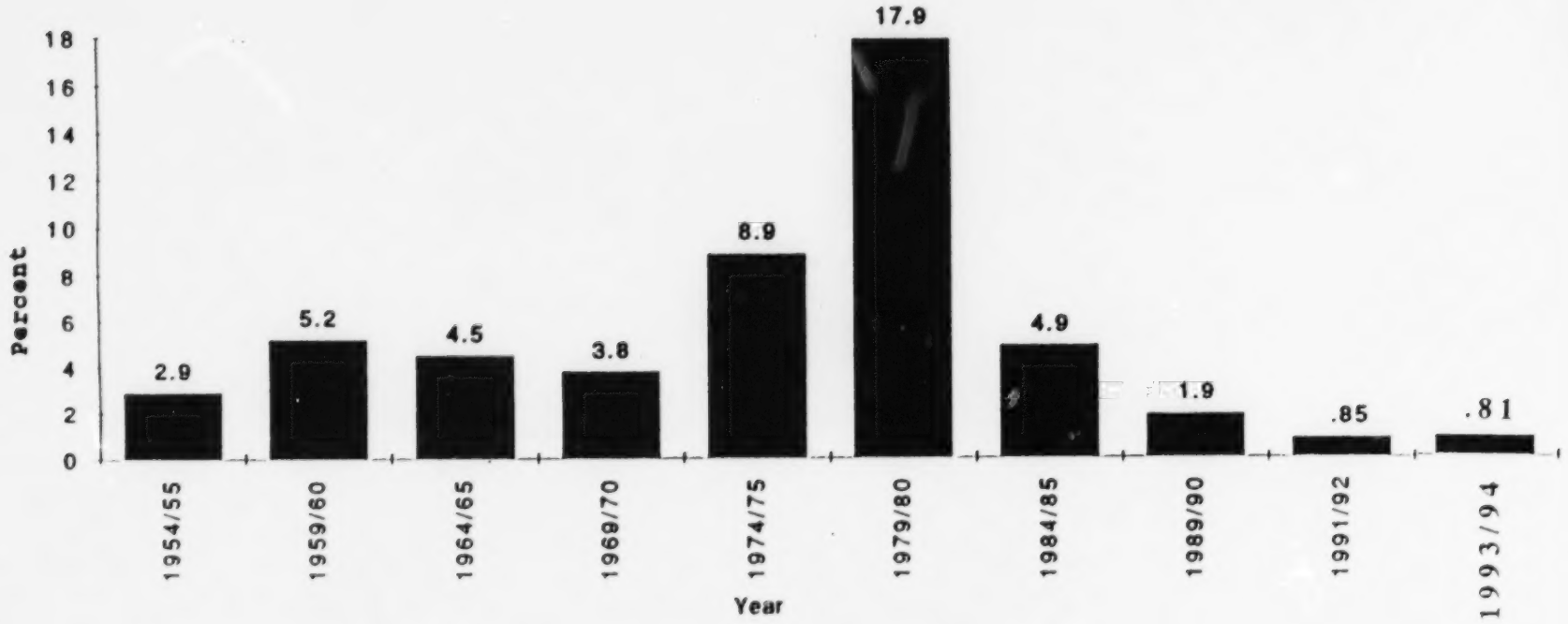
For a number of years this researcher has been interested in studies concerning Iranian students in the United States. This particular study is inspired by a number of factors. The most important factor is the multitude of articles in Iranian newspapers and magazines expressing concern over the Iranian students studying in the United States and the failure of many of these students to return after completion of their education. Many officials and commentators agree that this is a problem of serious concern for Iran. Mr. Kanazi (1993), Iran's Deputy Health Minister stated, "140,000 students are currently attending medical schools inside and outside the country. Of the figure, 40,000 are studying abroad and the rest at 33 universities across the country. The central issue focused upon here is the attitude of these students regarding returning home after graduation. It is significant that Iran sent more students to the United States for advanced education than almost any other country until 1980. Irans' president, Mr. Rafsanjani (1992) indicated that "it is imperative that Iranian experts studying at

Figure 1. Number of Iranian students in the United States, 1954-1994.



Source: I.I.E.

Figure 2. Percent share of Iranian students among all international students.



Source: I.I.E.

foreign universities should return home to expedite the task of Iran's reconstruction."

The problem of migration of Iranian professionals is not something new. Eren (1969) documented that in the four years between 1962-66, 51.9% of all the engineering graduates of Iran, 14.1% of the scientists, and 10% of physicians left their country for work abroad. There are more American trained Iranian doctors in New York alone than in the whole of Iran (Adams, 1968). Although it does not particularly include Iranian students, in the study of the mobility of PhD's of the National Academy of Science (1971), most foreign postdoctorates with US PhD's are from Asia, and they plan to stay in the United States. Sixty-four percent of Canadians and Latin Americans with US PhD's plan to stay, also of the groups of Africans, West Asians, and Australians, about 53-57% are said to be likely returning to their countries.

If Iran's goals for development are industrialization, modernization, and increased gross national product (GNP), then achievement of these goals is affected by the number and quality of professional individuals available. A country with such goals has lost a significant portion of its professional personnel through emigration to the developed countries such as United States.

The purpose of this study was to collect information concerning Iranian students in the United States and their intention to stay in the US or return to IR upon completion of their studies. The study also provides useful information to administrators of educational programs in Islamic Republic of Iran as well as less developed

countries to understand the important factors in returnability of international students to their homelands.

By surveying Iranian students in the United States, the study examined the following questions:

1. Why do Iranian students come to the United States?

2. Which factors are found in the Islamic Republic and the United States that have influence on the student's desire to return or not to return to his/her country?

Review of Literature

To better understand the Iranian students' education program in the USA and the returnability of Iranian students to the IRI the review of the literature will be focused on the following areas: (a) push and pull factors that encourage students from developing countries to leave their homelands and remain in the US, or return to their homelands after completion of their studies, (b) Iranian students in the United States, and their returnability to the Islamic Republic.

Push and Pull Factors

In their books, Fondness and Frustration (1983), and Decline and Renewal (1986), Crawford Goodwin and Michael Nacht report on studies they conducted of overseas scholars who returned to their home countries, which were Brazil, Mexico, Turkey, and Indonesia. The authors found much frustration among these returned scholars, who complained that the skills and competencies which they had acquired at great expense and effort had decayed upon their return

home. The frustrations Goodwin and Nacht have found include: economic, bureaucratic, professional, interpersonal, intellectual, and emotional. The following are some of the more common frustrations: (1) inadequate academic infrastructures (2) poor, inequitable salaries (3) inappropriate use of scholars' skills because of inefficient bureaucracies (4) political and social environments (5) intellectual decay (6) resentment from other faculty members (7) the opportunity to stay in the United States.

Orr (1971) examines published and unpublished studies on foreign students who studied in American colleges and universities. One of the major findings of the review was that many foreign student returnees experience difficulties in readjustment. Even though about 75% of the returnees were able to use their American training at least partially, those without influential friends and relatives experienced considerable difficulties in securing employment.

One of the push-factors causing the migration of educated talents from developing countries is the slow rate of economic development. Basically, countries with low rates of economic development have little capacity to absorb educated and/or skilled personnel into their economy. Since such countries continue to produce educated and/or skilled personnel, the result is an "over-flow". A report by Ahmad and Hassan (1970) pointed to the fact that the economy in the developing countries, for example, Pakistan, is not in a position to employ at least one third of the total annual output of its educated personnel. They therefore concluded that the cause of emigration is the result of "inability of the home market to

absorb qualified labor on a large scale", and the ability of the receiving developed country to absorb such qualified labor on a large scale.

Glaser's (1978) survey and correlational analysis revealed that income and the quality and quantity of jobs were associated with the non-return of international students. A study by Castano (1984) on Colombian emigration and return in the 1970's found that the majority of Colombians who emigrated to United States based their emigration decision on the availability of economic resources in the host country, and the scarcity of such economic resources in their native country. Kao (1971) surveyed Taiwanese students and professors in the US and found "income satisfaction in the US with American way of life" to be strong reasons for staying.

Rodriguez (1974) on analyzing social determinants of non-return among foreign students, using data from Glaser (1974), found out that "a student's status in the country of origin determines the predisposition to migrate especially if the individual is subject to racial or religious discrimination."

The role of the family and other social network ties are some factors contributing to the return of professionals. Peil's (1977) findings show that those who maintain a close link to their hometown are more likely to return home than those who did not maintain a close link with their hometown.

Menon and Carspecken (1990) study of Asian-Indian graduate students concluded that "the key conditions which contributed to the migration process are the policies of the receiving countries which

not only actively recruit promising graduate students but allow them to remain in the country after finishing their studies."

The study by Myers (1972) concluded among others that "marriage to a host country national" had an effect on permanent residential decisions.

Rao (1979) pointed out that developed countries attract students from developing countries for a number of reasons. Easier admission to academic institutions of host countries, scholarships, and travel grants awarded by government and academic institutions of host countries, a lack of good schools and university facilities in the home country, and the opportunity to "see the world" are the most-often mentioned reasons. In general, non-acceptance by educational institutions at home, scholarships from abroad and home, wider, better and superior educational facilities in host countries, and a desire to see the outside world are the primary reasons students go to developed countries. Both Rao and Myers believe that the majority of international students return home after completion of their training.

Najmal (1981) in his application of human capital theory model to decision-making by foreign students seeking to study in the United States concludes that students' rate of return from US education are high monetarily for engineers especially for the students from India and Taiwan. Factors that affected the students who chose to stay in the United States include country of origin, political stability, and job opportunities within the country of origin as well as family ties.

Research indicates that there are a myriad of push and pull

factors involved in foreign study. Individual students and their families have their own interests and concerns, and governments in the industrialized nations also have priorities. Therefore, in many instances, there is more than one motivation involved; for example, American authorities are interested in internationalization of American higher education, providing assistance to students for the Third World, and expanding American influence abroad (Jenkins, 1983). While concern about the brain drain from these countries is real, there are many in the scientific communities who choose to emphasize what the United States stands to gain and developing countries stand to loose. "We've done very well with the people we got from other countries. They include Albert Einstein and Enrico Fermi" (Renze, 1987). It is useful to consider some of these motivations as a means of understanding some of the important implications of foreign study.

Iranian Students in the United States

Lockyear (1979) pointed out that the number of Iranian students in the US was staggering. It was believed that there were 50,000 to 75,000 Iranians studying in the US. The following report by Sale (1979), clearly shows the magnitude of Iranian students in the US:

> The foreign student adviser of the University of Chicago spoke of a junior college in Kentucky that had "no Iranian students three years ago and suddenly got 300 of them." In Washington-area universities, the growth has also been astonishing. in 1968, for example, American University had only 3 students from Iran; today it has more than 300. At George Washington, the number went from 82 in the spring of 1974 to more than 400 by the spring of 1977. "It's become a lucrative arrangement, just bringing bodies over here," said a professor at A.U. Tuition-

> supported institutions have found a boom in the charges for foreign students, he said. It has not been an unmixed blessing. "The enormous number of Iranian students can change the sociology of an entire university," an Iranian professor at G.W. said. An Iranian professor at American University said that the Mary Garden Center, a student cafeteria, "looks like a university in Tehran, there are such large numbers of Iranian students there now" (p. A1).

Returnabilty of Iranian students. The phenomenon of students from developing countries not returning home has been cause for concern in developing countries. BBC (1983) reported that the General Assembly at the United Nations adopted a resolution regarding this phenomenon. The resolution recommended that members "should, as a matter of urgency, give due consideration to the formulation of policies with a view to mitigating the adverse consequences of the reverse transfer of technology." It also recommended that developed countries "should assist and support the efforts of the developing countries towards the full utilization of their own trained personnel in promoting their economic and social development". Although every developed country regards its overseas students program as part of its aid to developing countries, the United States, Britain, France, Italy and many of the other developed countries voted against the resolution. But reversing the brain drain is not easy. The International Education Conference of 1966, held in Tehran, brought up the subject of the "brain drain" as a problem of all developing countries.

One of the greatest gaps in the statistical understanding of returnability is the lack of data on students who return and stay in Islamic Republic of Iran. The Interest Section of the Islamic Republic of Iran in Washington DC is the Iranian certifying agency for all

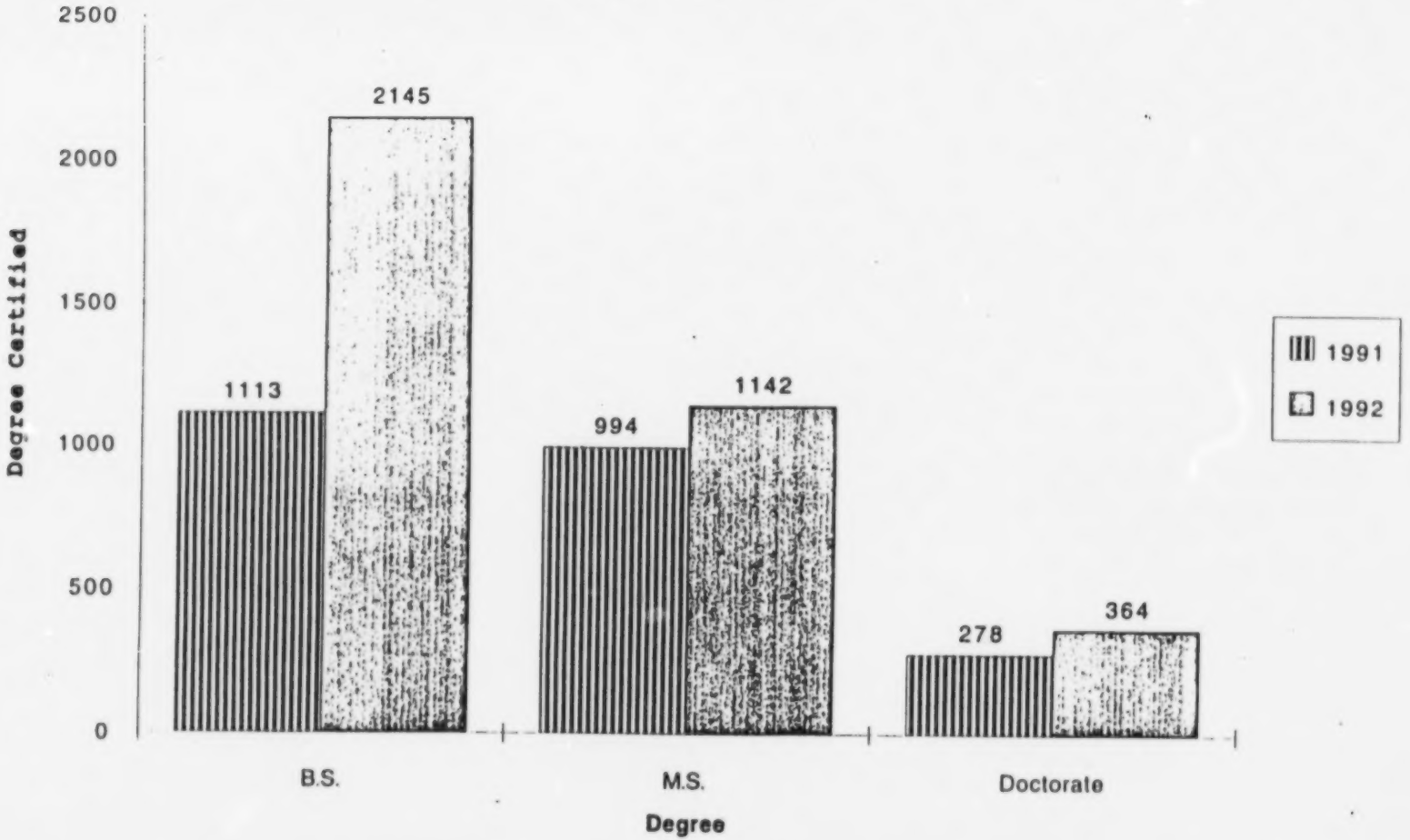
diplomas and degrees awarded by American educational institutions. It is mandatory that returning Iranians go to the Interest Section to have their degrees certified. However, they have to do this only if they wish to return to Iran. Consequently, one can assume that a large but uncertain proportion of these students are returning to Iran. Figure 3 gives quantitative information about the number of degrees certified in 1991 and 1992.

Methodology

A correlational research design was chosen for this study. The subjects for this study were Iranian college students studying in the United States, determined by a random sample of 300 enrolled at the graduate and undergraduate levels. Six (6) weeks after the original mail out and two follow ups, a total of 130 useable questionnaires had been collected. This is a sufficient number since it is more than the number suggested by Fraenkel and Wallen (1990) for correlational studies.

A questionnaire was developed based on guidelines suggested by Dillman (1978) for constructing a mail questionnaire, existing research, examination of experts for content validity, and pilot study. The questionnaire consists of four major parts: (1) demographic factors (2) reasons for coming to the United States (3) decision to return or not to return (4) factors influencing the intention of Iranian students to stay or return to the Islamic Republic of Iran upon completion of their studies.

Figure 10. Number of degrees certified by Interest Section of Islamic Republic of Iran, 1991-92.



Source: Interest Section of Islamic Republic of Iran in Washington D.C. (Unpublished report).

Data Analysis

The point biserial was used to determine correlation between factors influencing Iranian students and their decision to stay in the United States or return to the Islamic Republic. The point biserial is used whenever a measure of relation between a dichotomous variable and a continuous variable is needed and when it is inappropriate to assume that a normal distribution underlies the dichotomy (Dubois, 1965). Both the name and the rationale for r_{pb} are due to Karl Pearson (Glass & Stanley, 1970). The point biserial is a product-moment correlation.

Findings and Discussion

Reasons to Come to the United States

A review of findings suggest that Iranian students come to the United States for a variety of reasons (Table 1). Sixty respondents said they came to the United States to make a contribution to the home country with their training. Fifty-three of the respondents said they come to the US to secure a degree with value and prestige. Out of a total 10 possible reasons classified under "reason for coming to the United States," only two reasons were mentioned by the majority of respondents: "to make a contribution to my country and "to get a degree with more value and prestige."

Among other reasons, difficulty of admission to Iranian institutions, better standard of life, helping family by getting an advanced degree, and wider, better, and superior educational or

Table 1

Students' Reasons to come to the United States

Reasons	Return		Non-return	
	N	%	N	%
(a) could not be admitted to the university in Iran	24	15.48	16	21.10
(b) could not find my field of study	3	1.94	2	2.63
(c) to get a degree with more value and prestige	34	21.93	19	25.00
(d) to have a better standard of life	11	7.10	13	17.10
(e) to escape political problems at home	5	3.22	7	9.21
(f) to eventually get a permanent visa	0	0.00	2	2.63
(g) to make contribution to my country with advanced training	51	32.90	9	11.84
(h) to help my family after getting an advanced degree and better pay	11	7.10	6	4.56
(i) to bring improvements to my institution with the training I get	5	3.22	1	.76
(j) to see the United States	3	1.94	0	0.00
(k) other reasons	8	5.17	1	0.76

Note. The percentages are percentages of reasons, not of respondents.

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training facilities in the US were mentioned. The analysis reveals that only 2 respondents seriously entertain migration plans but think of it as to go abroad first as students. To see the United States, and political problems were also important reasons for small percentage of Iranian students.

Returnability

The majority of the respondents (69.23%) in this study expressed their intention to return home after completion of their course of study. This finding is in keeping with previous studies (Rao, 1979; Myers, 1972). It is generally believed that the majority of students return home. It is important to understand the factors in Islamic Republic and United States that may have influence on Iranian students to return to Iran or stay in America after completion of their studies. The fact, of course remains that this decision is always the result of diverse motivations.

The reason to stay or return varies from one individual to another. Although the decision to return or remain in the United States is influenced by a variety of factors, often a single one will be decisive. For example, marriage to a citizen of the United States may tip the scales in favor of staying, or separation from religion and culture may be decisive in the return of Iranian students. Parents support to stay in the United States for economic reasons is not often the cause of staying, but when this factor applies it may be decisive.

The factors that encourage staying or returning can be listed in the approximate order of their importance, as shown in Tables 2, and 3. The estimate of importance is based on the correlation coefficient of a factor and the degree to which it is likely to be influential in

Table 2

Point Biserial Correlation Coefficients of Factors Influencing Students' Decision to Remain in the U.S.

Factors	rpb
Personal freedom	.74
Opportunity to stay in the United States	.70
Better work conditions	.68
Acceptable political conditions	.67
Better chance for advancement in my profession	.66
A convenient life	.65
Better academic opportunity	.62
Better salary	.61
Appropriate use of scholars' skills	.59
Army obligations	.39
Acceptable social life	.38
My parents support my stay in the United States for economic reasons	.35
Research facilities	.33
My profession is needed	.21
Marriage to non-Iranian	.14
Religious minority	.13
My children's education	.08

p<.05

Table 3

Point Biserial Correlation Coefficients of Factors Influencing Students' Decision to Return to Iran

Factors	rpb
A convenient life	.70
Personal freedom	.70
Personal safety	.69
Acceptable political conditions	.67
Discrimination against Iranian	.64
Acceptable social life	.63
My parents demand my return to Iran for emotional supports	.51
Better work conditions	.47
Separation from my religion and culture	.44
Separation from my relatives	.40
Marriage to an Iranian	.35
Expiration of visa	.34
My profession is needed	.31
Separation of my children from their religion and culture	.26

$p<.05$

determining whether a US-educated Iranian will leave or remain in the United States. Personal freedom, opportunity to stay in the United States, better work conditions, acceptable political conditions, better chance for advancements in profession, convenient life, better academic opportunity, better salary, and appropriate use of scholars' skills had high to moderate relationships with students' decision to stay in the United States. On the other hand, the convenient life, personal freedom, personal safety, acceptable political conditions, discrimination against Iranians, acceptable social life, emotional supports to parents, better work conditions, separation from religion, and separation from relatives had high to moderate relationships with students' decision to return to the Islamic Republic of Iran.

Although army obligations, acceptable social life, and research facilities have a potential for increasing the rate of staying, the return rate may also be increased by such a factor as marriage to an Iranian, expiration of visa, country's need for professionals, and separation of children from their religion.

Convenient life, personal freedom, acceptable political conditions, and salary. Often it is assumed in the literature (Najmal, 1981; Rao, 1979) that a convenient life, personal freedom and acceptable political conditions are found in industrialized countries exclusively. Surprisingly, a majority of Iranian students felt that Islamic Republic of Iran possessed such a lifestyle, and they wished to return to it. Apparently, their definition of a convenient life, personal freedom, and acceptable political conditions are not found only in the United States of America. The students can speak only from the frame of reference of their present experience.

The responses of non-returnees with regard to salary and professional advancement are congruent with the findings of previous studies (Castano, 1978; Glaser, 1978; Kao, 1971), and most non-returnees are attracted by high salaries and the opportunities for advancement in the United States. Some Iranian students are drawn by the high incomes and relatively good professional opportunities.

The direction of change in Iran, as well as the absolute level of economic and political development play an important part in the decision to return or not. The political situation in Iran appears to be very stable, if the prospects for economic growth are good, and if career opportunities in general are improving, then return will increase. This is true, even though a large gap may still exist between conditions in Islamic Republic and conditions in the United States. Some Iranian students decided to stay in the United States in spite of the strong natural inclination to return home. For example, the cost and scarcity of housing in Iran is another important factor leading to non-return. Many educated Iranians in Iran have a difficult time buying a house.

Prestige of education. A unique finding of this study which is not commonly considered in the literature is the prestige of education and Iranian peoples' respect for scholars which accompanies the student profession after he returns home with his earned degree.

The returnees may be convinced overall that the prestige and respect of people due to their profession found at home will bring them a convenient and acceptable social life. Even though convenient

life, high salary, and chance for advancement are found in the host country, a sizable number of students wanted to return home because of prestige and respect of Iranian culture for scholars.

Opportunity to stay in the United States. Another important factor influencing Iranian students is the opportunity to remain in the United States which had been verified in previous studies (Menon & Carspecken, 1990; Goodwin & and Nacht, 1986). United States has always followed a relatively liberal policy in immigration. The general conditions for immigration are fairly flexible, which encourages an international student to settle in the United States. The F-1 student visa regulations as they now stand are biased in favor of international students remaining in the US to work.

Army obligation. One of the factors influencing the decision of Iranian students to remain in the United States is army obligation. Male graduates must complete the universal military obligation of two years by volunteering to serve in the army or government agencies related to their specialties upon returning to Iran. Although most university graduates are able to satisfy their requirement by serving in the government agencies rather than army, the analysis reveals that the army obligation has influenced students' decision to remain in the United States.

American way of life. The problems of non-returnees are aggravated by the difficulties that some professionals experience integrating themselves into Iranian culture and accepting Iranian social life after having been in the United States for long periods of time. This study supports the findings of Orr (1971) regarding difficulties in adjustments faced by foreign students returnees. They

may feel different than their fellow countrymen about the magnitude of the problems and the sociological and cultural change that has been taking place in Iranian society. They have been cut off from the masses and their families by the level of their knowledge, American culture and its media. Families and society may have little interest in the potential which they may represent for development of their country. In addition to the other factors which progressively increase the risk of non-return, students become accustomed to the certain standards of living and of leisure, that they sometimes they only socialize with Americans and become totally influenced by American social life style.

Personal safety. Violence in America is at the level that would have been unimaginable for many international students while they were in their homelands. Washington DC, has been called the murder capital at the United States, and Los Angeles is famous for its gangs. In Houston, Boston, Philadelphia, Chicago, and other large cities, murders have escalated at an alarming rate. Random killings, drive-by shootings, and cold-blooded execution have made many Americans and international students live with fear and anxiety on a daily basis. The level of violence in the United States has influenced the intention of Iranian students to return to Iran for personal safety.

Discrimination. The respondents regarded discrimination against Iranian as another factor influencing their decisions to return to Iran after completion of their education. The United States attracts a much higher proportion of Muslim students than other countries because of its high quality of higher education, and multi-cultural

society. The latest Newsweek (1993) poll reveals that Americans are sharply shifting attitudes toward immigrants. Fully 60% of all Americans see the current level of immigration as bad for the country. The same poll also shows that sixty-two percent of those surveyed worry that immigrants take jobs from native-born professionals. Events like the World Trade Center bombing and arrests and accusation of Muslims, have made the situation even worse for Muslims and in particular Iranians. Many of the respondents emphatically expressed their return home following graduation because of the impression of discrimination persisting in the United States against Iranians. Therefore, with this feeling, it is obvious that Iranian students cannot see a pleasant future in staying in America.

Responsibility toward parents. Finally, an important factor in explaining the high return rates of students who have studied in the US is the social, and cultural background from which those students tended to come. Students will return not only because of their jobs, personal freedom or other factors, but because they feel responsible toward their parents. In Iranian culture the obedience, and respect to one's parents is mandatory. In reference to duties toward parents, Allameh Tabataba'i (1991), mentions the following poem from Ferdousi:

> How well did Zal (a mother) express it to her son,
> when she saw him strong as an elephant,
> more than a match for a leopard,
> If you would recollect your tender years,
> When you were helpless in my arms,
> You have never shown me unkindness these days,
> When you are a lion-man, and I, an old woman (p. 168)

Recommendations

As the investigator carefully reviewed the findings of this study, it became clear that Islamic Republic of Iran is going to have to bear a greater responsibility of finding a remedy to its problem of non-returnees. Obviously the effectiveness of the recommendations depend to a large extent on the competence and earnestness of those who are responsible for its operation.

1. The system of higher education in Iran should be more expanded, and made respectable. Since, for some time, Iran will have to depend on foreign universities for advanced training of its scientists, planners, administrators, educators, engineers, and technicians, all the initial efforts should be centered on strengthening and expanding existing programs throughout Iran in order to gradually limit study abroad to a few specific graduate and post graduate programs.

High priority should be given to the reinforcement of existing strengths in all areas associated with universities based on economic developments. In addition some universities in Iran are badly organized and poorly equipped, and they fall far short of the ideal institution which would meet the international expectations.

2. A reasonable goal for investment in research might be set at between 0.5% and 4% of the GNP, depending on the relative wealth of the developing countries. Research is an investment, not an expenditure. Carefully planned investments in research and higher education based on economic developments are among the most profitable that a country can make.

3. It might work to the advantage of Iran to develop more programs which would provide opportunities for the students and specialists to see changes in socioeconomic developments, as well as employment opportunities, in their country.

4. The biggest deficiency in amount of returnability is the scarcity of data on the number and characteristics of persons who return to Iran after completion of their studies. Clearly, the usefulness of extensive information on persons entering the United States is substantially reduced by the fact that little is known about the number who return. Islamic Republic should make a study of how many of its scholars go abroad and how many will re-emigrate. It is only if a careful study is made regarding the highly educated that the non-returnees can be determined and appropriate remedies found.

5. Locating, and communicating, with specific individuals who decided not to return to Iran is as important as sending students abroad. In addition, the Ministry of Culture and Higher Education should set up a Student Placement Office in the United States as well as other developed countries to find employment opportunities for the students who have completed, or are about to complete, their studies in the United States. It is suggested that the Placement Office maintain a roster of such students. The students in turn should be asked to submit a resume' of their qualifications and educational background and the kinds of jobs they are interested in. A list of all the prospective employers and the specific occupations are available in Iran should also be included so that the students could directly initiate contact with these employers for future information.

6. International links are important. No nation can wisely pursue a policy of independence in science. The less developed the country, the greater the difficulty in establishing a solid structure for science and the greater the need for strong links to world of science. A degree of isolation can be useful to scientists as a protection against unproductive conformity, but this is only desirable under rare special circumstances. The need for communication--for more widespread efforts to establish free and collaboration within Iran, for an increased flow of scientific information and people among nations, and for the stronger network of international activities--is particularly recommended to Iran and all developing countries. Accordingly, it is proposed to develop a "common market" and creation of an international intellectual community of developing countries.

7. Active leadership, staff assistance, and funds should be provided by Muslim countries' organizations for the development of advanced training--to the PhD level in some cases--taking advantage of existing centers of excellence wherever they may found in developing countries. The full exploitation and expansion of developing countries' capability to offer advanced training is a major means of preventing migration of students. More fellowship should be made available by international organizations for students to study in developing countries.

8. A recommendation suggested for the developed countries is to require international students from developing countries to return home after graduation for at least one visit before emigrating. It would be an expensive burden on the students, some of whom would

eventually return to the developed countries, but perhaps developing countries could convince some graduates to stay instead of returning to the developed countries. In the developing countries, the loss of educated persons is sorely felt. The developed countries would return practical training to its original purpose of providing training for home country employment by prohibiting later adjustment of students' visa status to permanent resident status.

These recommendations are not new. They are reiterated here because they are important and because deficiencies in the training process continue to exist in Iran, as well as developing countries. Many individuals go abroad for advanced training on their own initiatives. They have a right to do so, but training opportunities should be expanded within Iran and all developing countries to help minimize reliance on training elsewhere.

Conclusions

Most Iranian students do not plan to stay in the United States. They study in the United and return to the Islamic Republic after completion of their studies. For theses students, study in the United States constitutes an important personal gain and, also, a significant addition to the human resources of their country. Student training programs, important as they are to Iran, have a hidden cost in the later migration of some of the students. The opportunity to learn skills, to become accustomed to the culture of the United States, and to become acquainted with job opportunities often makes later migration seem desirable for approximately 30% of Iranian students.

Like many industrialized countries, the United States is experiencing shortages in the fields of engineering and medicine. America's laboratories and research centers offer opportunities to foreign academics, who wish to work temporarily or permanently. In addition, many US universities face shortages of faculty, and teaching assistants, especially in fields such as engineering, mathematics, nursing, and the physical sciences.

In most countries, engineers, doctors, agriculturists, nurses, teachers and other professional people capable of building institutions are considered as strategic groups. Such individuals, professionals and institution builders have dual loyalties. One loyalty is to their profession and the pursuit of a satisfying professional careers. The other loyalty is to their religion, country, family, friends and emotional associations of many kinds. Choosing to stay most frequently occurs when the conditions of work in the individual's profession in his home country fail to satisfy his professional drives, so that professional loyalty overcomes the other loyalty and stays abroad.

The large number of students from developing countries studying in the United States often creates the impression that a large number of students are staying in the United States permanently. This study establishes beyond doubt that a majority of the Iranian students plan to return home after completion of their course of study. Study abroad continues to be an essential part of the education of many developing countries' students. Much of this training is obtained in Western countries. However, well-known and continuing deficiencies in the planning of training opportunities

detract from the usefulness of such programs. Inadequate planning in part of developing countries and adequate planning in part of developed countries tend to increase migration of students.

The general feeling is that more students are returning to their homelands in part because developing countries have developed institutions to absorb most well-trained professionals. The continued growth of developing countries' universities will reduce the need for students to come to the developed countries.

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